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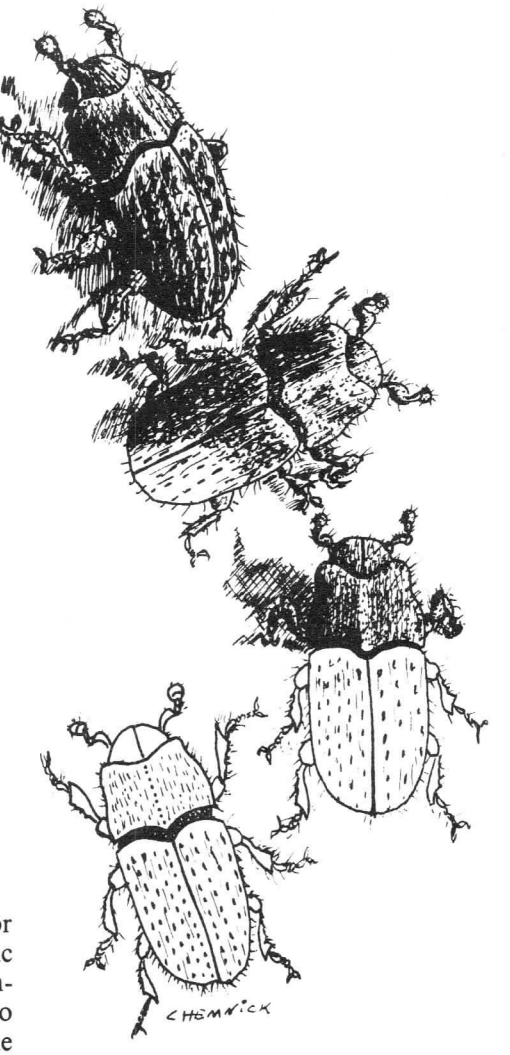
Jim Ficke
Iowa State University



Colorado Front Range Vegetation Pilot Project

by Jim Ficke

Foresters, tourists, and landowners are shocked when they enter the eastern foothills and Ponderosa Pine belt east of the Continental Divide in Colorado.

During the late 1800's most of the accessible timber was cut from the first mountain range rising from the plains, extending north and south of Denver. This area, locally called Colorado's front range, was exploited by the developing mining industry and to build the towns of Denver, Boulder, Colorado Springs, and agricultural communities in the plains to the east.

By the early 1900's most trees of any size had been cut and a new forest was developing. As this forest grew the mood of Colorado's people changed; they no longer exploited the forest, but protected it.

The second generation of trees growing along the front range developed largely without the influence of natural thinning factors such as fire, insects, and disease. Young Ponderosa Pine stands grew into dense, almost even-aged, stands. Trees began to need to compete for the limited soil nutrients, water, and sunlight. Growth and plant vigor declined and in the 1930's an endemic pathogen, the pine beetle (Dendroctonus ponderosa), began to attack the unhealthy trees. A pine beetle epidemic raging through the pine forests was diminished by an extended period of extremely cold weather dropping to as low as —43° in 1950.

During the 1960's, the front range experienced rapid development of mountain land for residential purposes. Public demand by "Environmentalists" thwarted efforts by foresters to manage the lands. The emphasis by local residents was to protect the lands for recreational purposes. During this period, climatic conditions were mild and dry. The mountain pine beetle population became epidemic and in 1975, 1.5 million trees were killed by the mountain pine beetle within the 580 thousand acre ponderosa pine belt.

Recreational opportunities on the public land and values of the private lands were being threatened. A three hundred acre fire in 1976 raged through dead fuels left by the beetle, and the public began to realize the threat of wildfire in dense stands or in areas of fuel accumulation.

Great concern by the public, the Colorado Congressmen, local, County, State, and Federal agencies began to develop for foresters to "do something."

Beetle epidemics, though not completely understood, are one of nature's processes for naturally regenerating pine forests. Human desires, for a multitude of differing values, are not tolerant of these processes. Management, through application of proven techniques, can modify the life cycle of growth, maturity, and death and maintain a level of growth, thus reducing the potential of a catastrophy in the forest.

The forest can be managed through application of proven techniques, to perpetuate the beauty, wildlife, and recreational ooportunities and reduce the likelihood of devastation by fire, insect, and disease.

A pilot project applying intensive forest management activities to 34 thousand acres of private and public lands in Boulder County, Colorado, was proposed jointly by Boulder County, the Colorado State Forest Service, and the U.S. Forest Service. This project will, on a pilot basis, demonstrate applicability of treatments, refine cost estimates, and establish criteria for expansion to an additional 500 thousand acres of threatened pine stands on the Front Range of Colorado.

The project goals are:

1. Establish a healthy and vigorous forest through Silvicultural treatment. Favor genetically superior and visually attractive trees. Reduce mountain pine beetles to an endemic level.
2. Manage forest fuels to reduce major wildfire potential.
3. Maintain or improve wildlife habitat for a variety of species.
4. Restore and maintain scenic quality.
5. Maintain a wide range of outdoor recreation opportunities on public and private lands.
6. Conduct research and demonstrate results.

Within the Forest Service, U.S.D.A., the project represents a concerted effort to integrate the responsibilities of National Forest System, State and Private Forestry, and Research into a viable problem solving, results oriented program.

Project Area

The pilot area encompasses approximately 50 square miles in Boulder County, Colorado and the Roosevelt National Forest. The area was selected because it: typifies intermixed landownerships in the Front Range (44 percent private, 56 percent public or quasi-public); has sixteen residential subdivisions (population 4 to 5 thousand); is heavily infested with beetles; has four established designated pine beetle control areas (an area where beetle control is carried out in an organized way); has several active landowner associations; contains informed, active citizens that have demonstrated a desire for management solutions; and has excellent rapport and cooperation between private landowners and governmental entities.

Planned Activities

Based upon specific site and vegetative conditions, several management techniques will be applied: (1) Thin and product removal to reduce stand density (13,600 acres); (2) Cut and chemically treat, burn, or remove infested trees (6,500 acres); (3) Reduce fuels for forest fires by removing, piling, burning, and chipping debris (16,600 acres; (4) Plant trees or browse plants for wildlife (12,000 acres). In most cases more than one technique will be applied to each acre.

Research will test the applicability of results from other regions and lead to an improved understanding of the benefits occurring to recreation, wildlife, fire protection, and the forest ecosystem in general. This pilot scale application provides a mechanism for effective transfer of our current state-of-the-knowledge in ponderosa pine management. Specific activities include:

—Evaluate the response of users to the esthetic qualities of areas receiving different vegetative treatments.

—Evaluate the response of wildlife on a species specific basis to varying levels of habitat improvement activities.

—Demonstrate the usefulness of thinning in second growth ponderosa pine as a means of mountain pine beetle control.

—Determine utilization potential for the fiber being temporarily removed from both the pilot project area and from the entire Colorado Front Range Vegetation Management Program.

—Quantify the fire hazard reduction resulting from fuel treatment, improved fire access, and fuel breaks.

—Evaluate the economics of fire protection, taking into account presuppression costs, fire readiness costs, and fire fighting costs balanced against values and risk for the Colorado Front Range.

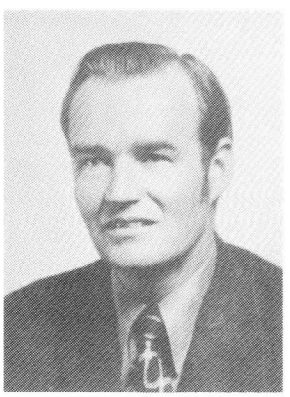
—Appraise the effects of the pilot project with respect to dispersed recreation use wth special focus on increased accessibility and awareness of the area by post-treatment users.

—Investigate interactions between thinning densities and dwarf mistletoe, root rot, and insect pests.

An environmental analysis was conducted and approved by Rocky Mountain Regional Forester Craig Rupp, Colorado State Forester Tom Border, and Boulder County Commissioner Margret Markey.

The project proposal was carried to Washington by the Boulder District Ranger, Boulder County Forester, and Local Colorado State Forester, and presented to the Chief of the U.S. Forest Service, U.S. Office of Management and Budget, and Colorado Senators and Representatives.

The three million dollar project was approved, financed, and is well on its way to completion. Public support for this project has been most gratifying; only time will tell if it is truly successful.



James E. Ficke—is now the District Ranger for the Boulder and Estes Park Districts on the Roosevelt National Forest. He graduated in 1959 from Iowa State University, a forestry major. In 1978 he was selected by the Colorado State Forest Service as "District Ranger of the Year."